



VISIONIAS

INSPIRING INNOVATION

ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

निर्धारित समय: तीन घंटे

Time Allowed: **Three Hours**

अधिकतम अंक: 250

Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरान्त अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू.सी.ए. पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू.सी.ए. पुस्तिका प्राप्त कर लें।

General Instructions

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 00146775

अभ्यर्थी का नाम/Name of Student : Anusha Jain

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

English

तारीख
Date

15/8/20

सामान्य अध्ययन (प्रश्न पत्र-III) GENERAL STUDIES (Paper III)

केंद्र
Centre

Jaipur

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	महत्वपूर्ण अनुदेश	Important Instructions
	उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।	Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.
1	(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet
2	अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5	उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।	Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.
7	प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8	यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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परीक्षक के हस्ताक्षर Signature of Examiner(s)	

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					



सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

निर्धारित समय: तीन घंटे
Time Allowed: Three Hours

अधिकतम अंक: 250
Maximum Marks: 250

प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

कुल बीस प्रश्न दिए गए हैं जो हिंदी और अंग्रेजी दोनों में छपे हैं।

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH**.

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated in the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1.

खाद्य प्रसंस्करण उद्योग का तीव्र विकास किस प्रकार भारत में खाद्य सुरक्षा संबंधी चुनौतियां उत्पन्न कर रहा है?
(उत्तर 150 शब्दों में दीजिए)
How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words)

10

उम्मीदवारों को
इस क्षतिपूर्ति में
नहीं लिखना
चाहिए
Candidates
must not
write on
this margin

India's food processing sector
is 8% of GDP, with potential
of upto 20%.

Reasons of Rapid Growth of Food Processing industry.

- 1) PM FME scheme — for technical, financial, advisory in setting up units
- 2) cluster based approach — Mega Food Parks
procurement and processing
- 3) Export Enhancement — with Niryoat Mitras,
quality certifications and remission scheme
- 4) Interest subvention and Priority sector
lending for food processing
- 5) Rainbow Processing — Blue, Pink, white, Grey
Golden, Yellow, Red etc

Challenges to Food Safety in India due to rapid growth of food processing:

① Contamination and lack of quality checks

↳ thumb in leptican found

② Food safety and security Authority (FSSAI) found adulteration in processed goods

↳ Yellow powder in Turmeric, Urea in milk packets

③ clustering of Informal enterprises in food processing (more than 80%)

↳ lack of regulation
↳ Unhygienic and contaminated equipments
↳ lack of quality, processes weak

↳ Soya sticks, manufactory units, informal

& unhygienic

④ lack of Cold storage infrastructure, reduced shelf life

Thus, Need to Reform → Reform

and Transform the food processing,

for food safety & ensure SDG 2 & 3

2.

भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)
Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words)

10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Public Distribution System (PDS) is world's largest subsidised food security programme. of Ensuring 67% of population is fed with aim of 'nobody sleeps hungry'

Fair Price Shop Transformation evolving process:

these are sale points, which provide food grains to the eligible.

FCI → State → FPS → People

① The quality of grains have improved -

↳ Prevention of hoarding and black marketing by seller
↳ Integrated online supply chain

ensures not a single grain is diverted -

① From regulation of FPS to string-
monitoring - 5 Cancellation of license
on spot if discrepancy found

② Biometric Authentication → Aadhar based,
from older ration card system - move
to duplication, forgery and inclusion errors

③ Aadhar based payment system ABPS
enabled DBT beneficiaries to access
grains at FPS

④ The Jan Dhan, Aadhar, Mobile trinity
enabled implementation of direct Benefit Transfer

⑤ Remote Area Presence of FPS - by
online registrations and supply chain
network development

Thus, despite challenges of
machine failure, grain shortage, internet
connecting, FPS has been evolving, facilitating

last mile delivery through POS

3.

भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words)

10

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
Candidates must not write on this margin

AgriTech Startups will get a boost from 'Agriculture Accelerator Fund' launched in Budget 23-24

Role of AgriTech Startups in Enhancing Farm Productivity & Market Access:

I. Farm Productivity Enhanced:

- ① Precision Agriculture — sensor, drones monitoring soil health by PLANTIX
- ② Income increase — up to 25% of farmer by Ninjakaar startup
- reducing post harvest losses
- ③ Agre Farm, learning and helping farmers to manage soil health
- ④ Increase Yield and Productivity

through climate studies, crop type, land use and information available in AgriStack

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
Candidates must not write on this margin

II Market Access improved

- ① Farm to Fork delivery, connecting farmer to manufacturers to customers
- ② Transport and storage network access -
④ 52000 crore food loss could be saved (NASSCOM)
- ③ Out of mandi sale, where startups opening market diversification
↳ Food Processing @ Millet Shri Eat Better etc.
- ④ Encouraging organic farming and natural farming → with demand reach
- ⑤ Export mobilisation → connecting to market of world.

Thus, promotion of AgriTech startups have been recommended by Ashok Dalwai Committee to double income of farmers & ensure food security of nation.

4.

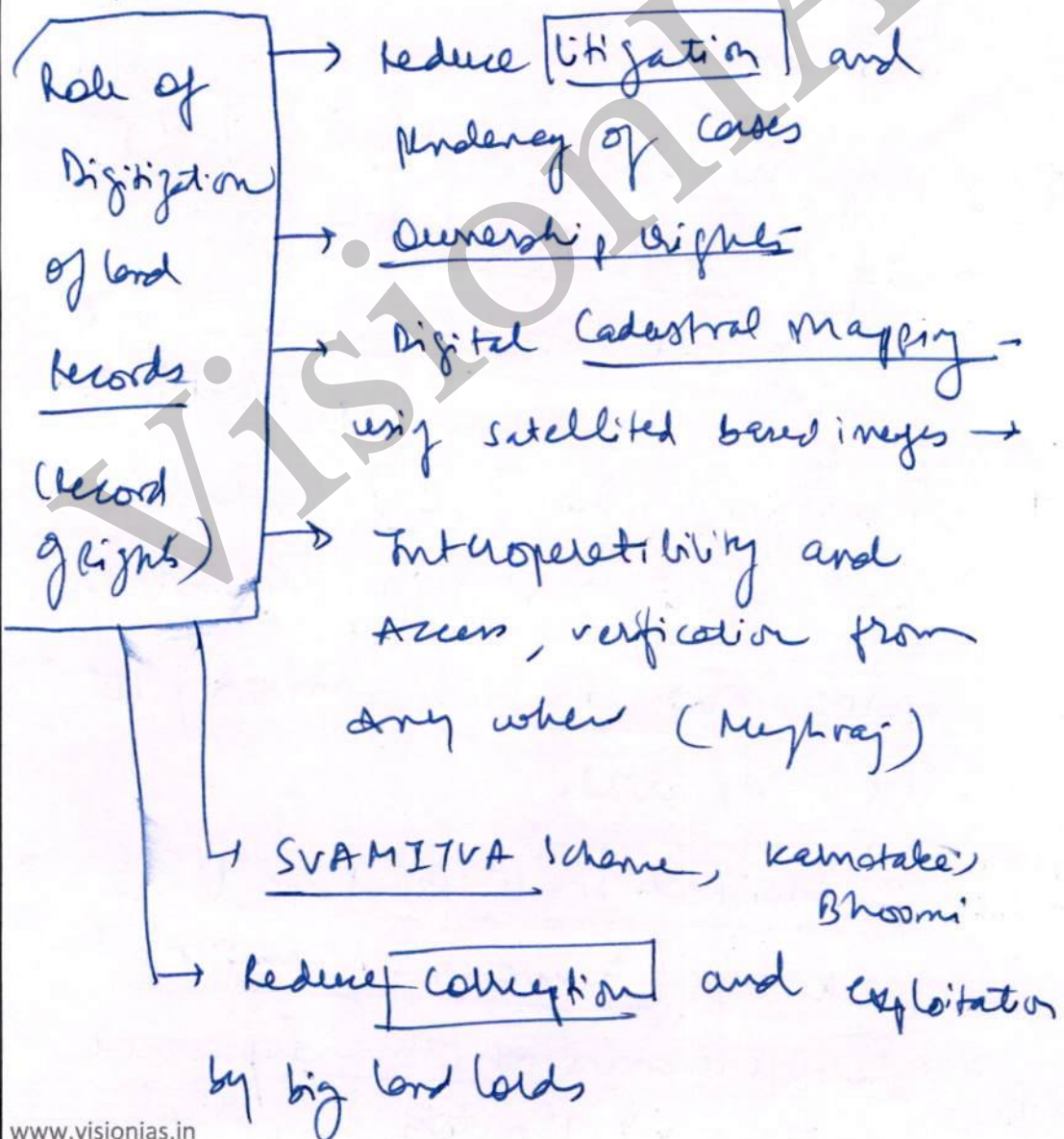
भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Discuss the role of digitization of land records in the effective implementation of land reforms in India. (Answer in 150 words)

10

उम्मीदवारों को इस हार्डिए में नहीं लिखना चाहिए
Candidates must not write on this margin

From the colonial Commercialization of land, to land reforms since Independence, a lot has been ~~done~~ done and lot more is required, digitization of land records being one of it.



Effective Implementation of Land Reforms

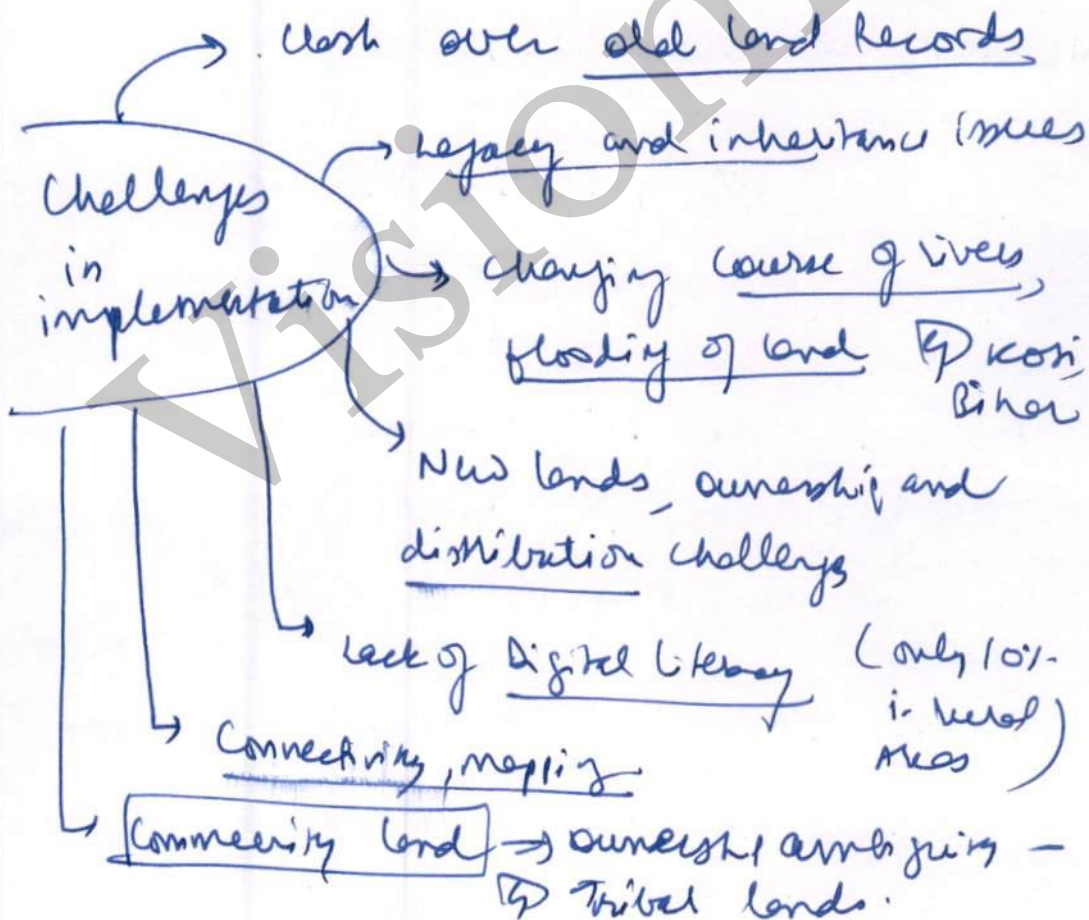
Case Study
Rajasthan
waste land
converted to
**10 megawatt
Farms**
in Barmer

→ Land Ceiling Management
monitoring

→ Tenant identification

→ **Land Parcel** identification
ownership & development

→ fallow, cultures fallow,
arable land categorisation



Thus, resolution of these challenges
will effectively ensure **land reforms**

5.

भारत को अपने जनसांख्यिकीय लाभान्श का पूर्ण उपयोग करने और आर्थिक विकास में तेजी लाने के लिए एक विनिर्माण-केंद्रित विकास मॉडल को अपनाने की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

To fully exploit its demographic dividend and accelerate economic growth, India needs to adopt a manufacturing-led growth model. Discuss. (Answer in 150 words)

10

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India's working population is projected to reach 6.8% (16-65 Age) by 2030. Education & employment creation will harness the dividend or it may turn into a Demographic Bomb.

Necessity of Manufacturing led growth :

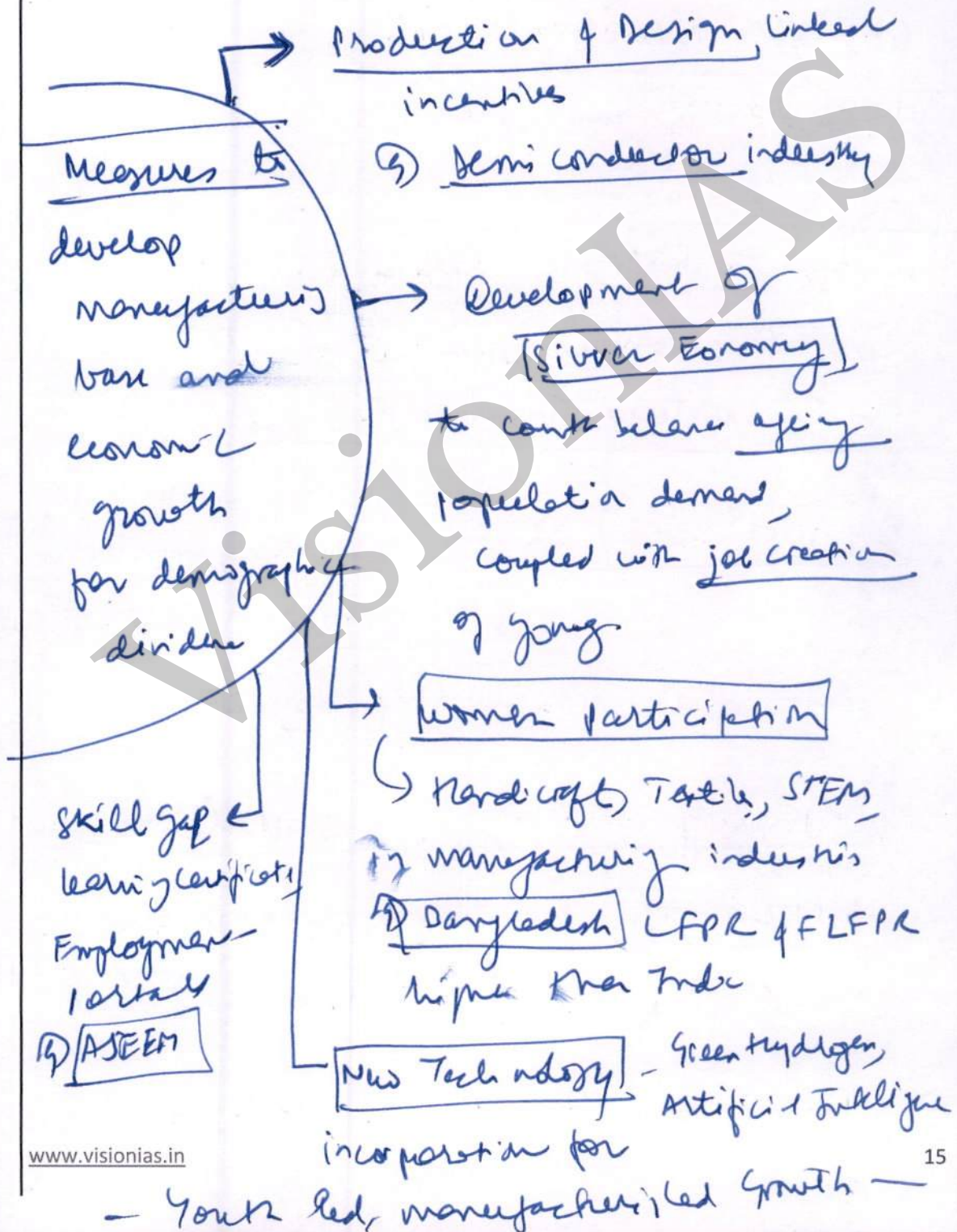
- ① Job creation potential highest —
 - ↳ MSME employs 12 crore
- ② Economic growth potential —
 - ↳ 30% GDP growth
 - ↳ more than 40% of Exports
- ③ Diversification and Accommodation —
 - ↳ from food processing to fashion Design
- ④ Ancillary Industries develop —
 - ↳ parts, design, quality check,

testing etc.

⑤ skilling and reskilling measures

required

⑥ Manups in manufacturing — create jobs and accommodate the workers.



6.

जलवायु परिवर्तन के परिणामस्वरूप बढ़ते प्राकृतिक खतरों से निपटने के लिए भारतीय तटीय समुदायों की प्रत्यास्थता को किस प्रकार मजबूत किया जा सकता है? (उत्तर 150 शब्दों में दीजिए)

How can the resilience of Indian coastal communities be strengthened to tackle the growing natural hazards resulting from climate change? (Answer in 150 words)

10

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India has vast coastline of 7000 km.
with communities adapting to climate hazards like cyclone, tsunami.

Ways to Increase Resilience of Coastal Communities to tackle growing Natural Hazards:-

① Awareness - Early warning system
like GEMZNI -
warns fishermen in deep seas about storm

② Capacity building of coastal area -
→ MZSHI for mangrove protection
and wetland conservation.

③ Disaster Preparedness on lines

of National Disaster Management Institute,
guidelines $\hookrightarrow$ Prep, Response
mechanism

① Coastal Regulation Zones :

CRZ I, II, III, IV demarcation
strictly follow for limiting damages

② Aquaculture & inland fishing
to sustain livelihood during disaster

③ Shelters and community homes -
for safe space and rescue points

④ Climate resilient farming, adapting
to changing needs

⑤ Disaster Rehabilitation & Rebuilding, Reserve funds
eg Japan Model

Thus, Sander framework, can
further enhance disaster resilience of
coastal communities...

7.

भारत में अधिक संधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)

How does the Green Credit Programme extend beyond carbon management to promote a more sustainable environment in India? What are the various concerns about its implementation? (Answer in 150 words)

10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Green Credit Programme, ensures the voluntary contributions and promotion of green projects.

It is different and goes beyond carbon management, where carbon credits are traded.

It includes Green Projects which not only offsets carbon emission, but encourage sustainable practices.

↳ sustainable Agriculture
Afforestation
Green Buildings
waste management

It creates a positive cycle of

supply - demand and encourage these
projects by securing funds.

The green bond can be traded
and has potential to build
a Green Economy

Concerns of Implementation:-

- ① Green washing by industries
misleading the investors
- ② vagueness of programme regarding
trade and investment
- ③ Life cycle approach followed, but
on paper, the environment Impact
assessment missing.

Awareness about GCP will enhance
the Green Economy and ensure
SDG 13.

8.

जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध हैं, तो NavIC की आवश्यकता क्यों है? (उत्तर 150 शब्दों में दीजिए)

What is the need for NavIC when existing satellite navigation systems are already available?
(Answer in 150 words)

10

उम्मीदवारों को
इस हार्गिए में
नहीं लिखना
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VisionIAS

9.

साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Cyber-enabled financial crime has emerged as the new frontier of global money laundering. Discuss. How can the government address this issue? (Answer in 150 words)

10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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VisionIAS

10.

इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्र में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

The Indian Army is observing the year 2024 as the 'Year of Technology Absorption'. In light of this, explain why there is a need for technology absorption in the defence sector of India. What challenges can India face in this initiative? (Answer in 150 words)

10

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इस हार्निंग में
नहीं लिखना
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11.

भारत के पूर्वोत्तर क्षेत्र (NER) में व्यापार एवं उद्योगों के विकास में किन समस्याओं का सामना करना पड़ा है? इन समस्याओं से निपटने हेतु किए गए उपायों पर टिप्पणी कीजिए। (उत्तर 250 शब्दों में दीजिए)
 What are the issues faced in the development of trade and industries in the North-Eastern Region (NER) of India? Comment on the measures that have been taken to tackle these issues. (Answer in 250 words)

15

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 इस हाशिए में
 नहीं लिखना
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North-Eastern Region due to lack of connectivity and geographical terrain has been deprived of development process. India is aiming at US\$ 7 trillion economy by 2030 and development of N-E R is necessary to achieve this goal.

Issues faced in development of trade and industries in N-E

- 1) Insurgency activities of Boko militancy, etc.
- 2) Tribal demography - indigenous forest rights & conflicts
 [e.g. Meitei - Kuki in Manipur]
- 3) lack of investment by private players.

- 4) climatic conditions — heavy,
rainfalls in Guwahati, Mawsynram
Meghalaya
- 5) Forest land → deforestation → Environment
concerns and clearances difficult
- 6) Strategic Areas with Borders →
China, Bangladesh, Myanmar
- 7) Migration Illegal trafficking and
shadow economy eg Golden Triangle
presence
- 8) Policy focus on maintaining peace
rather than development & prosperity.
- 9) Lack of basic industrial infrastructure
eg Road network, water, electricity supply.
- 10) Absence of Market and trade
channels

Measures Taken by Government to
Tackle these issues:

1. Ministry of Roads & highways —
building connecting of tunnels, Asian
Bridges, Kaledan Multimodal Project, etc
2. Airports in NEK, developed, with
direct connecting flights to Delhi &
metropolitan cities.
3. Mission for skilling and Reskilling
under PMKVY
4. Job Creation and employment opportunities
of ASSEM katal
5. Encouraging Private players — for
investment — [of] Investment fair, easy
environment clearances, and tax rebate
6. Education and women empowerment
[of] SHG led growth.
7. Local Industries Promotion of udyog Adhar
for msme.

North-East Region is Gateway to South
East Asia, and development here, will
ensure development everywhere

जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में संधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

In the era of climate change and growing water scarcity, how can micro-irrigation systems contribute to sustainable agricultural practices in India? (Answer in 250 words)

15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Niti Aayog report highlighted that in next 10 years water demand will become twice of current and 50% will face acute water scarcity.

Reasons for water scarcity:-

- ① Agriculture irrigation ($>50\%$)
groundwater used in Punjab, Haryana
- ② Pollution of existing water resources
in Kanpur Tanneries runoff in Ganga
- ③ changing climate → Extreme events — Glacier melt
Flood Droughts forest fires
further limiting fresh water availability

Micro irrigation benefits for Sustainable Agriculture

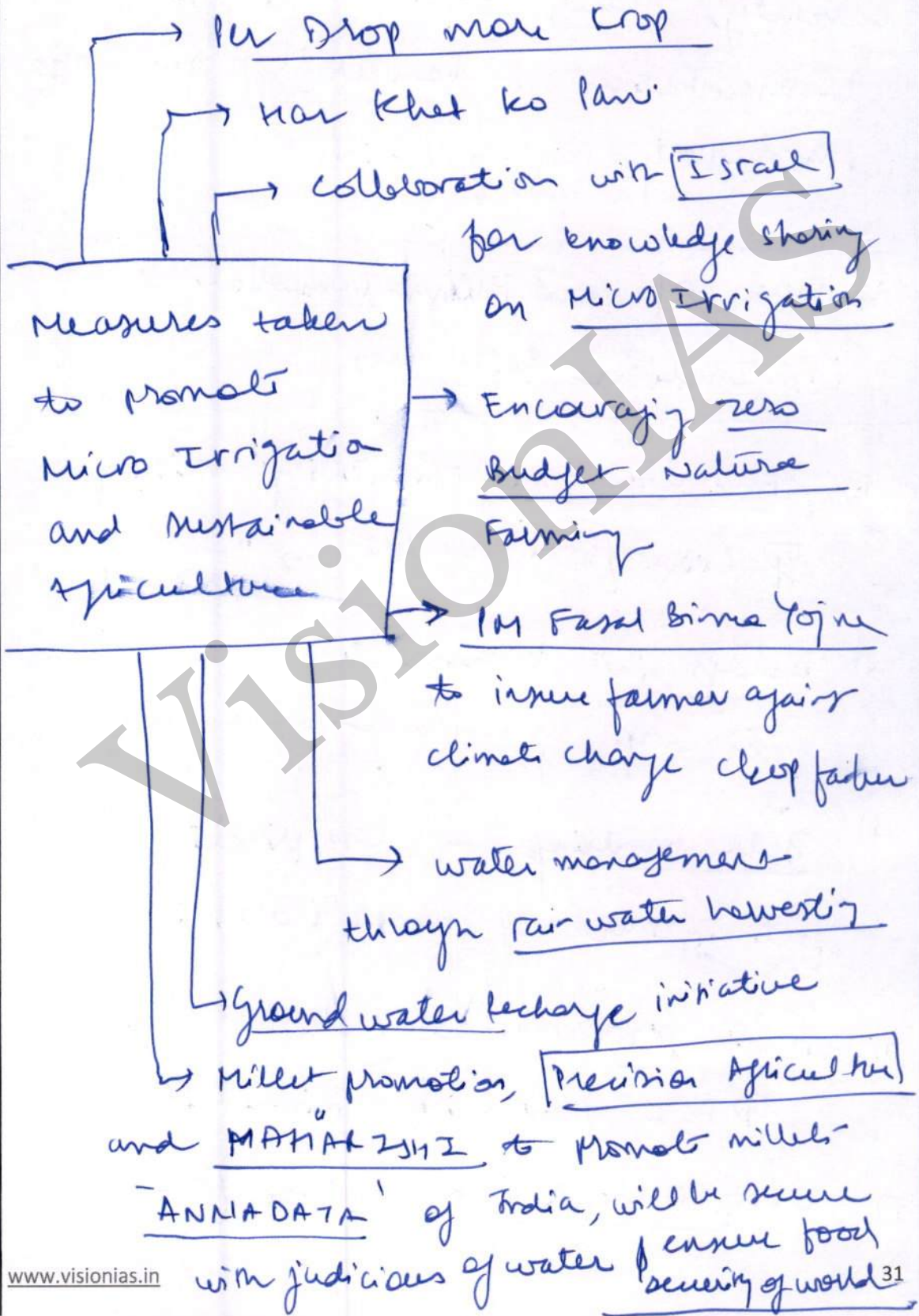
1. Reduce quantity of water needed
in 30 times less than normal supply
2. Reduce runoff of water in wasteland method

- 3) Evaporation of excess water prevented
- 4) Pollution reduced → Fertiliser & Pesticide water not go in lakes
↓
Groundwater
 ↳ Uranium in Bhopal
 ↳ Eutrophication
- 5) Soil integrity managed —
 excess water → leaching, salinization
 ↳ Indira Gandhi Canal → Hanumangarh soil
- 6) Exploitation of Groundwater Table prevented
- 7) Climate-resilience increase — with infra to tackle Drought events
- 8) Weed growth controlled → less use of pesticides
- 9) Organic manure & fertiliser can further boost Agri productivity
- 10) Shifting to diverse crops ↳ Bajra, ragi, (millets) apart from rice

which is water guzzling.

17) Limit the water export - initiated
by India

उम्मीदवारों को
इस हॉलिये में
नहीं लिखना
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13.

भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल ढुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)

What strategies can be adopted to overcome the issues pertaining to freight transportation in the Indian Railways and increase its share in the domestic freight? (Answer in 250 words) 15

उम्मीदवारों को इस हार्शिए में नहीं लिखना चाहिए
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currently, nearly 80% of freight transportation is handled by roadways with railways lagging behind.

Issues of Low Freight Transportation in Indian Railways

- 1) End-to-End connectivity missing
 ↳ Railway to market → Road network
- 2) Delays in transportation —
 ↳ Cargo management weak
- 3) Bulk handling — less private participation of small industries
- 4) Public procurement of freight move —
 ↳ FCI food grains, Kisan Kail
- 5) Underdeveloped infrastructure for

higher

6) passenger trains more, no separate tracks for freight

7) costing and booking facilities limited

8) Remote connectivity limited

due to geographical constraints

↳ in Himalayan states

9) Weak marketing and rail freight encouragement - eg. "chalta hai" attitude

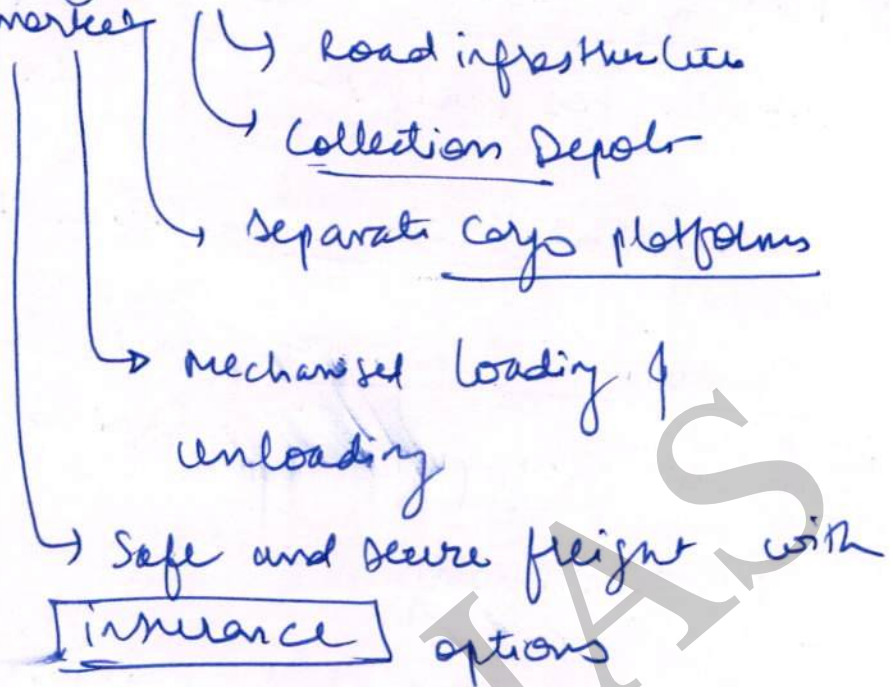
Strategies undertaken for increasing domestic freight share

1) Dedicated freight corridor projects for increasing the railway network

↳ Delhi-Mumbai Industrial Corridor

2) Attract investment for development of freight projects ↳ JICA, Reliance

3) Building end-to-end connectivity to market



4) Target market → with low turnaround time for perishables in fruits, vegetables

5) Facilitate cold storage option in flights

6) Categorisation of freight cargo — for small pilot players & bulk orders using AI tracking.

Indian railways being ^{one of} largest in world has potential to explore trans-atlantic network on lines of interest.

14.

उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

Discuss the factors that have aided India in making impressive strides in the renewable energy sector and establishing itself as a frontrunner in the global renewable energy transition. (Answer in 250 words)

उम्मीदवारों को इस हिसाब में नहीं लिखना चाहिए
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India's rank in top 10 of Energy Transition Index is mark of its stride towards goal of 100 GW renewable energy by 2030

Factors for Impressive strides in Renewable Energy Sector by India:

I] Effective policy making -

↳ leveraging the geographical advantage → [320 solar days]

⇒ JNDL goals aligned with energy transition -

↳ panchamrita goals

↳ Innovative ideas like [LiFE] mission, balancing [demand side]

2) Potential Exploration →

↳ Storage options - Lithium

↳ Jharkhand, Jammu Kashmir

→ Geothermal Energy - Puga Valley
Ladakh

(ii) Tidal Energy on

(iii) wave Energy - IT Madras

(iv) wind (on shore, offshore)
(100 GW potential)

(v) Bio Gas → Net zero Economy

(vi) hydroelectricity → Small Dams etc

3) Innovation & Technological efforts -

i) Green Hydrogen Mission

ii) hydro pump storage programme
for energy, alternative to dams

India Establishing itself as frontrunner

i) Market developed for renewable

↳ PAF scheme

2) Encourage Demand of Renewable —

- ↳ PM Surya Ghar mission for solar rooftops
- ↳ Net metering, & Hybrid Grid energy Programme
- ↳ Hydrogen buses, electric vehicle promotion
↳ FAME 2.0

3) Global initiatives and participation —

being the trailblazer —

eg → ISA & OSOW OG for Global
solar grid

↳ Global Biofuel Alliance

↳ Partnering with Sweden, Japan
and USA to develop green hydrogen,
sand battery, and alternatives to
fossil fuels.

India's vision of 'Prakrati
Rakshit Rakshitah' (Nature protects those
who protect it) is visible in its global
approach for renewable energy.

15.

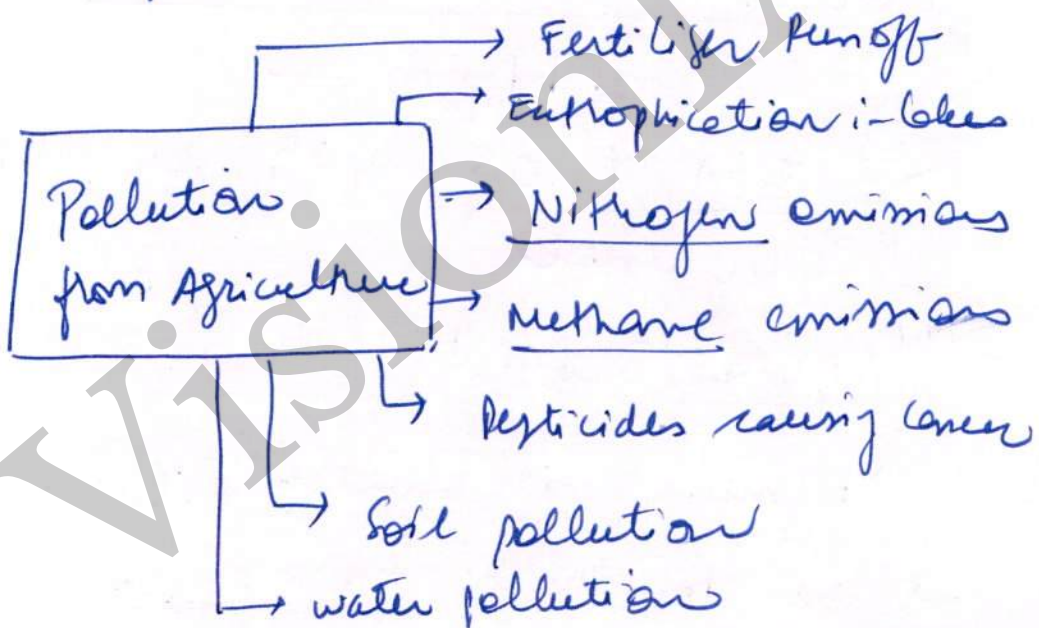
उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words)

15

उम्मीदवारों को इस दृष्टि में नहीं लिखना चाहिए
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Agriculture ensures food security of 9 billion population on earth, which also has become a major source of pollution in struggle to increase yields and production.



Contribution of Fertiliser & Pesticide runoff to Environmental Pollution:

i) Algal bloom and Eutrophication -
of lakes, ponds as phosphates

rich.

2) Excess irrigation — overuse of water, increases runoff

3) Overuse of fertilisers — $8:4:1$
and, when desired is $4:2:1 \rightarrow 1:1:1$

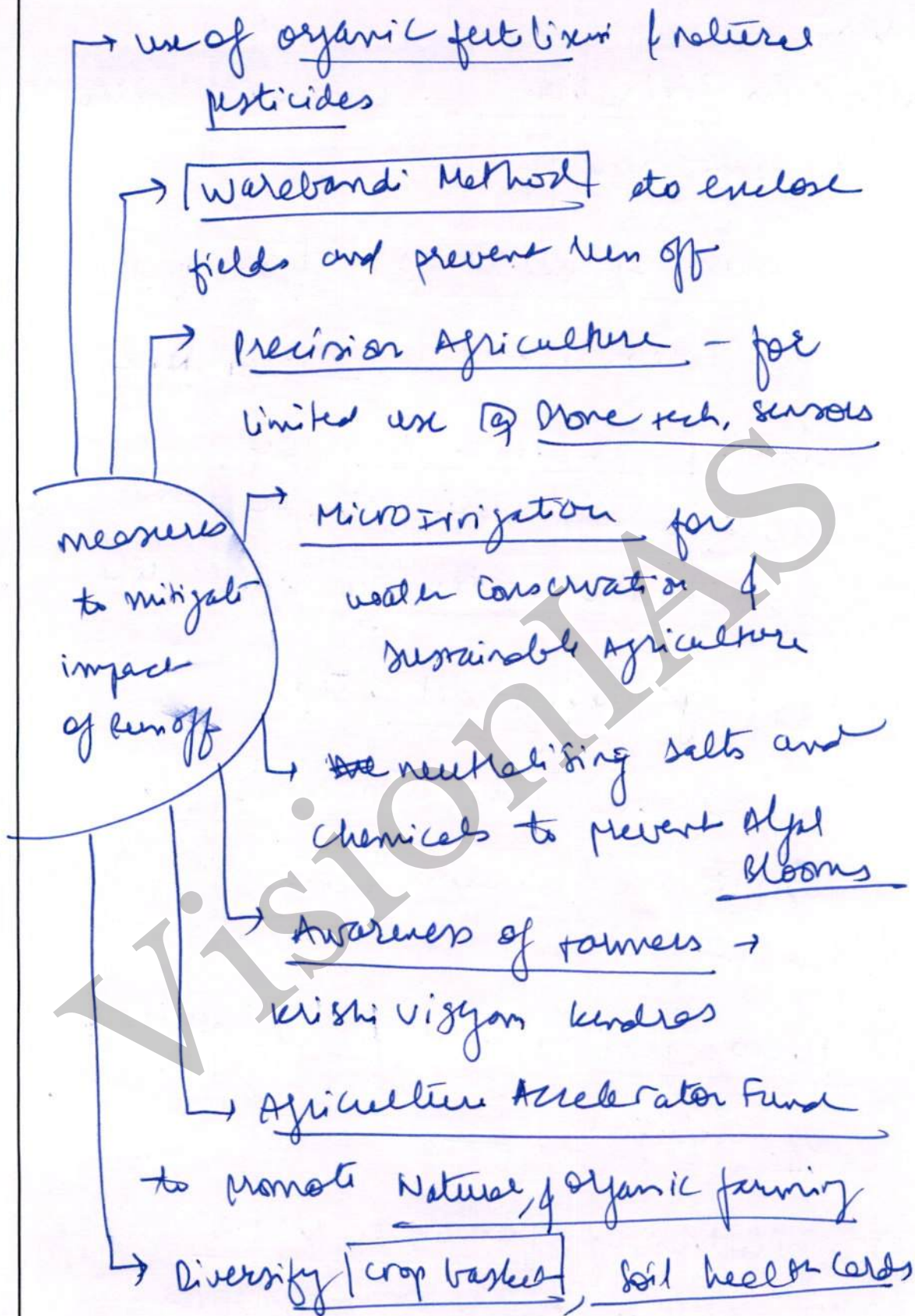
4) Lack of precision tools for fertiliser and ~~pest~~ pesticide $\rightarrow$ mixed with water causing pollution

5) Soil of quality deteriorates

6) marine life loss — biomagnification and bioaccumulation over time from runoff

7) Microorganisms, harmed $\rightarrow$ disturbing of ecological cycle and stability

8) Pollution of fresh water rivers, groundwater too as it pollutes aquifers



Soil, water, Agriculture health is
interlinked & scientific management can
ensure sustainable Agriculture in world

16.

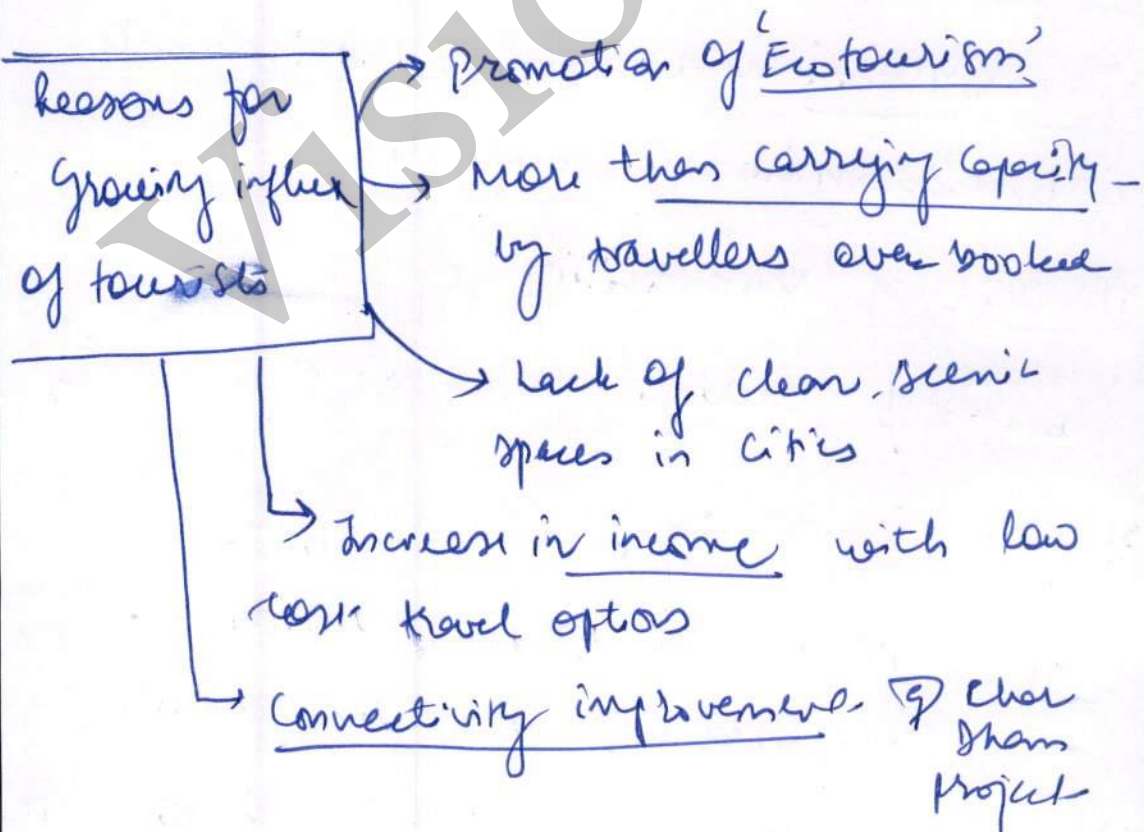
हिमालयी राज्यों में पर्यटकों की बढ़ती संख्या ने उनके पारिस्थितिकीय समावेशन क्षमता को पार कर लिया है, जिसके कारण बड़े पैमाने पर मानव-जनित आपदाएं उत्पन्न हुई हैं। संधारणीय पर्यटन को बढ़ावा देते हुए ऐसी आपदाओं को रोकने के लिए क्या उपाय किए जा सकते हैं? प्रासंगिक उदाहरणों के साथ चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए)

The growing influx of tourists in Himalayan states has breached their ecological carrying capacity, leading to significant man-made disasters. What measures can be implemented to prevent such disasters while promoting sustainable tourism? Discuss with relevant examples. (Answer in 250 words)

15

उम्मीदवारों को इस कक्ष में नहीं लिखना चाहिए
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On daily basis we encounter news of new disaster affecting lives in Himalayan states like landslides, subsidence, glacial outburst, cloudburst, flood, forest fire, which more than natural appears man-made.



Reasons for increase in Disasters in Himalayan Region:

1) Sensitive Topography - under stress

↳ Main Boundary Thrust, Earthquake zone IV, weak rock structure

2) Tunneling & mining blasts for

connecting weakening structure

↳ Jadhav cracks -

↳ Mishra Committee

3) Resorts, homestays and hotels

construction → unregulated increase to accommodate tourists

4) Lack of responsibility of Admin,

locals & tourists towards ecosystem

5) Global warming impacts - due to

high Greenhouse Gas emissions -

Gloir Lake outburst, rapid melting

6) Cloudburst event due to climate change

1. Forest Fires — as use of cigarette butts,
careless attitude of tourists

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इस हशिफ में
नहीं लिखना
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→ Natural Ecosystem restore — limit
construction activities

→ local help, with community
management of land

Measures to
mitigate
and

→ Ecosensitive Zone
demarcation ⇒ No Go Zone
→ separate residential areas
and Tourism sites

Promote
Sustainable
Tourism

→ Dharmshala Declaration
on sustainable tourism

→ Travel Tax on himalayan
region

→ Limit Number of Tourists
Token system with waiting list —

eg Bhutan

→ Best Practices like Manjajodi stays in
Odisha for ecological tourism

Himalayas are Heaven on Earth
and strategising today will prevent it from
becoming "Hell on Earth"

17.

सुपरकंडक्टर्स विज्ञान एवं प्रौद्योगिकी के विभिन्न क्षेत्रों में नवाचार को किस प्रकार बढ़ावा देते हैं? उदाहरण सहित स्पष्ट कीजिए। (उत्तर 250 शब्दों में दीजिए)

How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words)

15

उम्मीदवारों को इस हाथिए में नहीं लिखना चाहिए
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Superconductors are those materials which conduct electricity without any resistance. zero resistance ensures zero heat losses, & transmission loss with development of new technology.

Technically, at Okelvin, a material becomes super conductive.

however, for practical applications, superconducting is desirable at room-working temperatures

Super Conductors fueling Diverse fields of Science & Innovation:

① Transportation - Maglev Technology for Bullet trains using super-conducting tracks

- Hyperloop also uses super conductivity
- ② reducing Travel-time ~~and~~ ^{over large} distance.
- ③ Medicine and science — for
scanning — MRT scans
- ④ Development of Large Electromagnets —
with zero resistance & heat loss
→ can be used for Industrial lifting
→ saving energy and improving efficiency
- ⑤ Nuclear Technology → fusion,
where super conductivity helps in building
Magnetic interference — toroid
- ⑥ Space technology — for super cooled
systems and energy storage
- ⑦ Efficiency of automobiles, speed
enhancement can be achieved

- ② Energy and electronics, ~~for~~
resolving limitation of natural conductors
③ Internet of Things, Fuel Cell.
- ⑤ Quantum tech resolving issues
of decoherence and explore its
potential
- ⑩ Superconductivity has potential
use in Computation, Robotics
and AI, as will increase
computational speed, without heat-damage
- ⑪ Design of Super cooled systems,
uses in Biotechnology, and nanotechnology
promoting breakthrough research.

The recent paper by Chinese university claimed to have achieved superconductivity at room temperature but turned to be a false promise.

India's National Prusandhan Research

18.

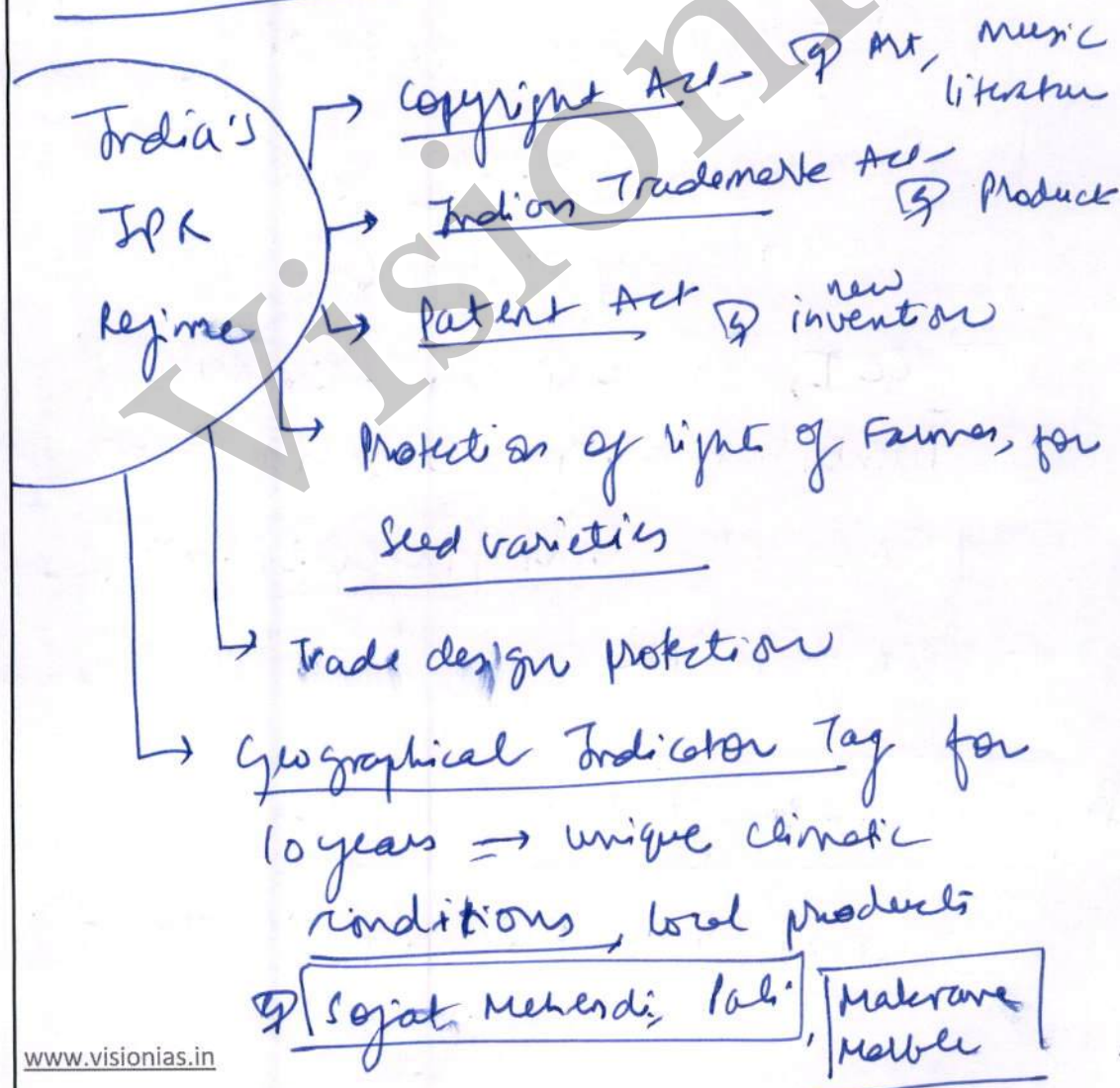
यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामक और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

While India has laws covering almost all types of intellectual property rights, numerous enforcement, regulatory and administrative challenges hamper the commercialisation of IPRs in India. Elaborate. (Answer in 250 words)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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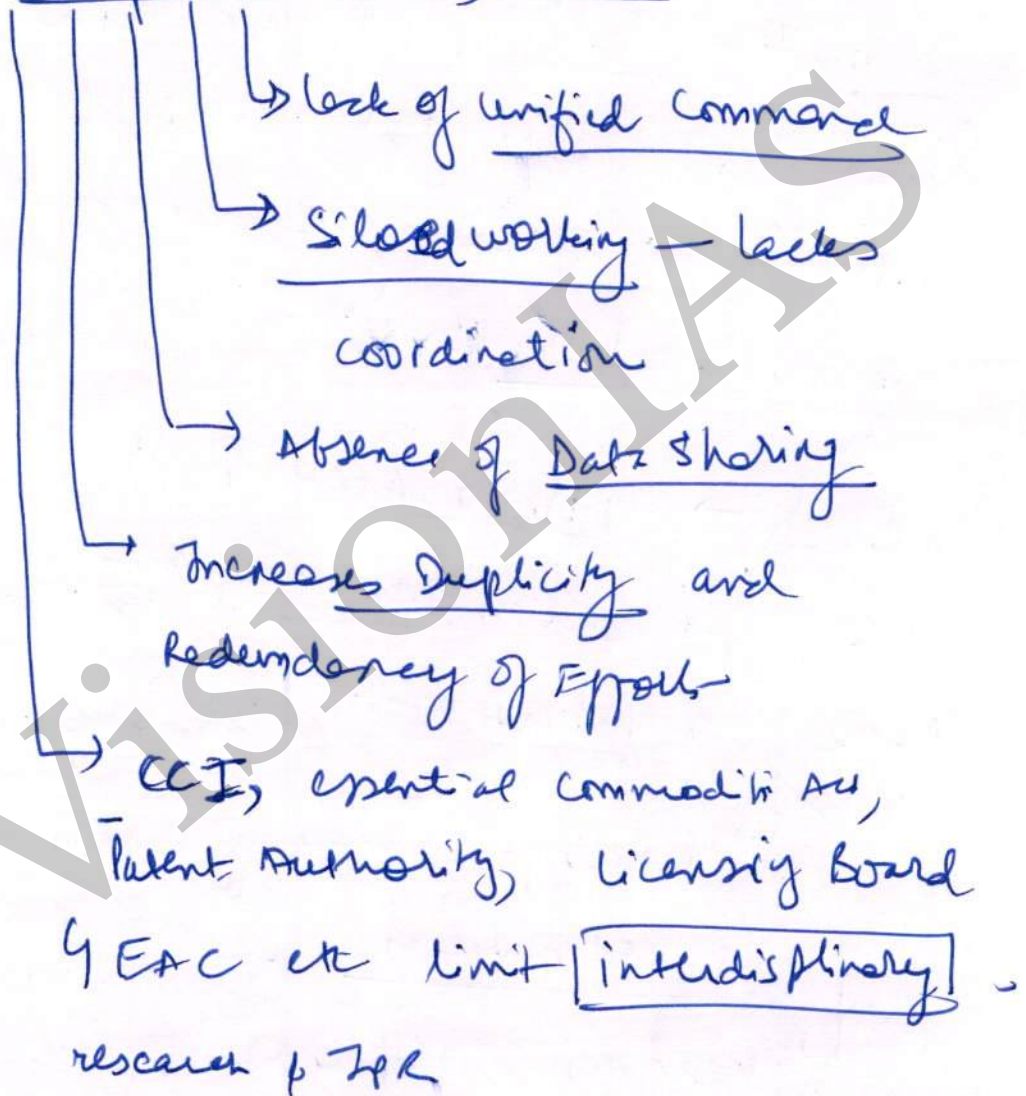
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India ranked in top 50 of global Innovation Index. A strong IPR regime, will ensure the sustained growth by resolving issues of commercialisation.



Challenges in Commercialisation of IPR in India:

① Numerous Regulatory & Enforcement Agencies —



② Regulatory Challenges —

① Compulsory Licensing Norms —

disincentivize the privat research
and innovation

↳ Novartis kidney failure drug →
made ~~under~~, suffered losses

* ② Bureaucratic Cholesterol → Red
tapism, delay in patents, copyright

③ Weak implementation and
monitoring of violations

III Administrative challenges:-

↳ Lack of Expertise - about
technicalities

↳ New Age issues → AI →
who will have copyright?

↳ Corruption and Ever Greening
of patents

Way Forward → Best Practices Adopt → EU
encourage innovation, IPR

→ Secrecy Pact to not reveal
IPR trade secrets

→ Trust & Integrity as intangible assets
potential of Tangible Growth.

19.

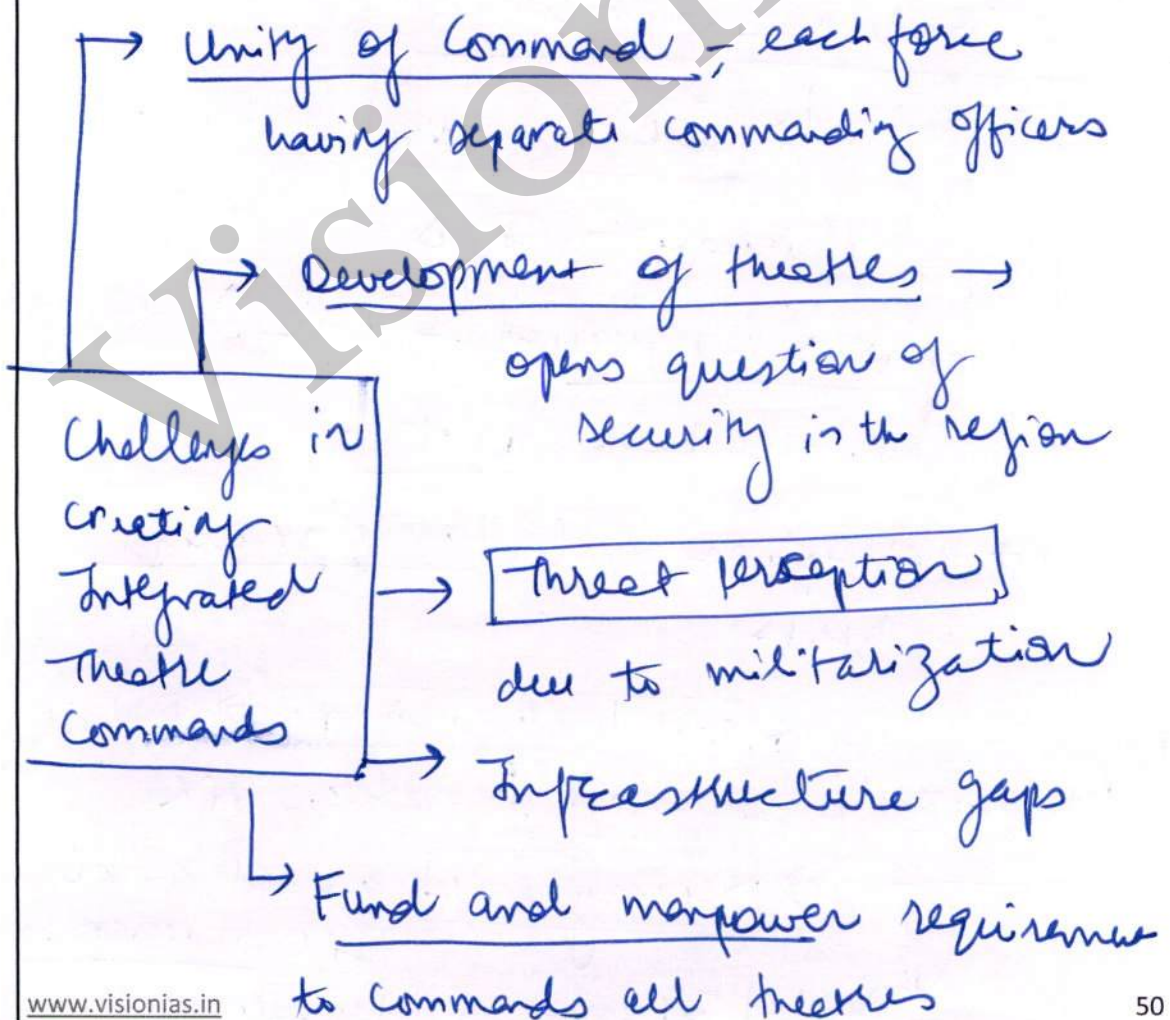
एकीकृत थियेटर कमान का निर्माण करने में सामना की जाने वाली चुनौतियों को ध्यान में रखते हुए, परीक्षण कीजिए कि कमानों का थिएटराइजेशन किस प्रकार तीनों सेनाओं के बीच जनशक्ति और संसाधनों के बेहतर एकीकरण और युक्तिकरण को बढ़ावा दे सकता है। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the challenges in creating integrated theatre commands, examine how the theaterisation of commands can lead to greater integration and rationalisation of manpower and resources among the three services. (Answer in 250 words)

15

उम्मीदवारों को इस हार्डिग में नही लिखना चाहिए
Candidates must not write on this margin

Shakti and Kargil Review Committee
recommended creation of Integrated Theatre Commands to tackle war like situation better at all the fronts and borders...



① Western Front

② North & North-East

③ Marine Integrated Theatre Command

Navy, Air, Army

all three forces jointly operate, train and practice



Integrated Theatre Commands
Marine

Advantages of Integrated Theatre Command

① Quick response and threat management

② Fast mobilisation of troops - with development of command centres

③ Integration of operational capabilities

④ Tri force attack using full military capability.

⑤ Integration of manpower, from all three fronts supporting each other

⑥ Infrastructure rationalisation — to accommodate all three forces.

⑦ Levers diversion of time & Resources
↳ Increase Coordinated attack
↳ Interoperability enhance

⑧ USA, China are examples of ITC

Additionally — use of Cyber Force
and Space Capabilities, can add to capacity building of Integrated Theatre Command, opening new dimensions with AI as well.

As Sun Tzu writes in 'Art of War',

"more you bleed in peace, less you
sweet

bleed in war", Integrated theatre

command will ensure safety & security of our great nation.

20.

सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)

Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words)

15

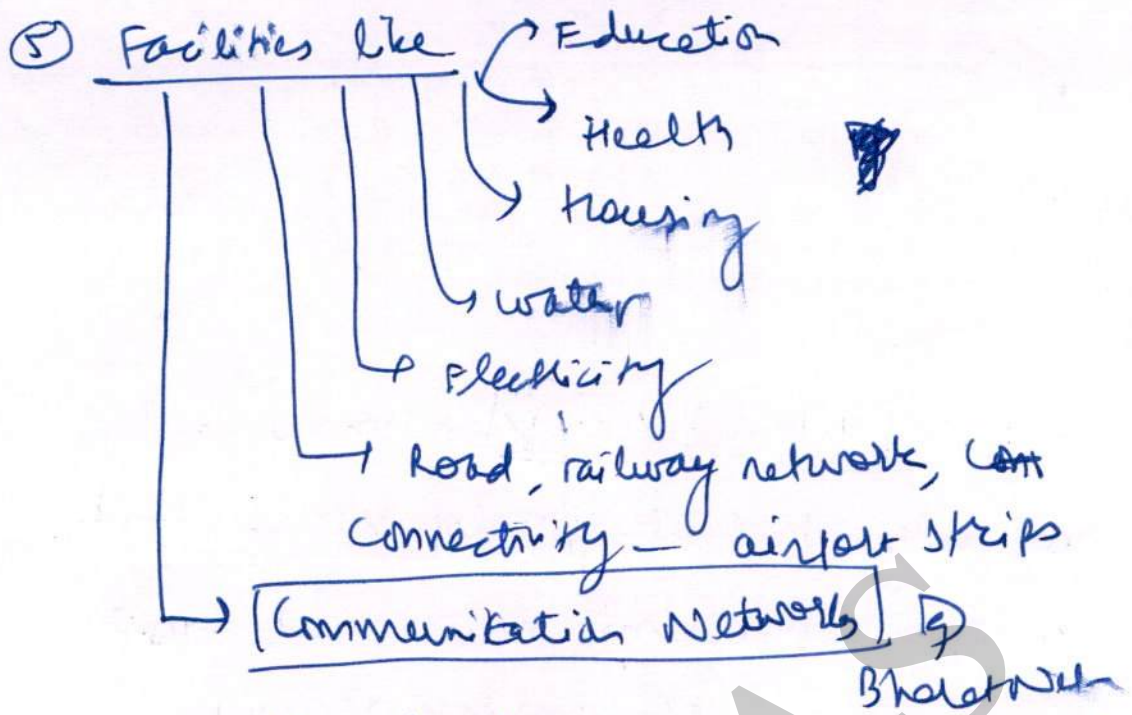
India's Vibrant Village mission is not only aimed at development of border villages, but also secure and equip them to handle border security.

Role of Border Villages in Border Security.

① Claim to Sovereignty, with expansion of village and residences there in
by Chinese Xiakong villages = military villages at Himachal Pradesh border

② Geographical Proximity to border →
- threat of infiltration, illegal migrants, control and evacuation by force

③ Infrastructural support to military
engaged in border protection



support the border forces
and villagers during war-like situation
and escalation

⑥ Mobilisation of manpower &
resources like arms, ammunition faster

⑦ Life at peace : The threat of
war, should not hamper the life
at peace → increase mental peace
and overall well-being of our forces

→ Infrastructural development —

↳ construction of highways, bridges and airports

↳ Chertham Project → ledels
Airport

→ Portable health cubes

measures being taken for vibrant village and border security

→ Operation Sadbhavna, engaging locals, along supporting education

→ winning of heart & minds of people in North East villages

→ Integrated Theatre Commands

→ Village Connectivity, with elections at ground level

↳ Mana Gans, India's first village

The inclusive and vision of border security development with help of villages will ensure safety of nation

SPACE FOR ROUGH WORK

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VisionIAS